



RF EXPOSURE EVALUATION

According to KDB 447498 D01 General RF Exposure Guidance v06 and part 2.1093, Unless specifically required by the *published RF exposure KDB procedures*, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding *SAR Test Exclusion Threshold* condition(s), listed below, is (are) satisfied.

SAR Test Exclusion Thresholds for 100 MHz – 6 GHz and ≤ 50 mm

Approximate SAR Test Exclusion Power Thresholds at Selected Frequencies and Test Separation Distances are illustrated in the following Table. The equation and threshold in 4.3.1 must be applied to determine SAR test exclusion.

MHz	5	10	15	20	25	mm
150	39	77	116	155	194	SAR Test Exclusion Threshold (mW)
300	27	55	82	110	137	
450	22	45	67	89	112	
835	16	33	49	66	82	
900	16	32	47	63	79	
1500	12	24	37	49	61	
1900	11	22	33	44	54	
2450	10	19	29	38	48	
3600	8	16	24	32	40	
5200	7	13	20	26	33	
5400	6	13	19	26	32	
5800	6	12	19	25	31	

For 100 MHz to 6 GHz and test separation distances ≤ 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] * [\sqrt{f_{(\text{GHz})}}] \leq 3.0$ for 1-g SAR, and ≤ 7.5 for 10-g extremity SAR, where

$f_{(\text{GHz})}$ is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before calculation

The result is rounded to one decimal place for comparison

For frequencies below 100 MHz, the following may be considered for SAR test exclusion (also illustrated in Appendix C):33

For test separation distances > 50 mm and < 200 mm, the power threshold at the corresponding test separation distance at 100 MHz in step b) is multiplied by $[1 + \log(100/f_{\text{MHz}})]$ For test separation distances < 50 mm, the power threshold determined by the equation in c) 1) for 50 mm and 100 MHz is multiplied by %
SAR measurement procedures are not established below 100 MHz.



Here,

For WIFI 2.4G

Mode	Frequency (MHz)	Power (dBm)	Tune-up power (dBm)	Max tune-up power (dBm)	Max tune-up power (mW)	Min. Distance (mm)	Calc. thresholds	limit
802.11b	2412	8.766	8 ± 1	9	7.94	5	2.4663	3.0
802.11g	2412	7.572	7 ± 1	8	6.31	5	1.9802	3.0
802.11n 20	2437	7.642	7 ± 1	8	6.31	5	1.9802	3.0
802.11n 40	2422	6.704	6 ± 1	7	5.01	5	1.5642	3.0

For 13.56M

Frequency (MHz)	Electric Field (dBuV/m)	Power (dBm)	Power (mW)	Min. Distance (mm)	Calc. thresholds	Limit
13.56	100.37	5.17	3.29	5	0.0766	442.65

Conclusion:

1. $[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] * [\sqrt{f(\text{GHz})}] < 3.0$.
2. SAR Test Exclusion Thresholds is 3.0 for separation distance 5mm. Therefore, SAR test is not required.
3. The Product unsupported at the same time to Transmitting